CLAIMS

1. A method for prefix limit exchange for route advertisement, the method comprising:

communicating a prefix limit from a first element to a second element, wherein the first element and the second element are routing neighbors in a network;

advertising a plurality of routes from the second element to the first element;

recording, at the second element, a number of the plurality of routes that the second element has advertised to the first element; and

suspending route advertisement from the second element to the first element when the number is the same as or greater than the prefix limit.

2. The method according to claim 1 further comprising exchanging a prefix limit capability between the first element and the second element.

3. The method according to claim 1 further comprising:

recording, at the second element, at least one route withdrawal to the first element;

updating, based on the at least one route withdrawal, the

number of the plurality of routes that the second element has advertised to the first element; and

resuming the route advertisement from the second element to the first element.

4. The method according to claim 1 further comprising:

communicating an increased prefix limit from the first element to the second element without resetting a peering session between the first element and the second element; and

resuming the route advertisement from the second element to the first element until the number of the plurality of routes that the second element has advertised to the first element is the same as or greater than the increased prefix limit.

5. The method according to claim 1 further comprising:

communicating a decreased prefix limit from the first element to the second element without resetting a peering session between the first element and the second element; and

suspending the route advertisement from the second element to the first element when the number of the plurality of routes that the second element has advertised to the first element is the same as or greater than the decreased prefix limit.

6. The method according to claim 1 further comprising subjecting the plurality of routes to one or more route filters negotiated between the first element and the second element.

7. The method according to claim 1, wherein the first element and the second elements are routing neighbors in a network implementing Border Gateway Protocol (BGP).

8. At least one signal embodied in at least one carrier wave for transmitting a computer program of instructions configured to be readable by at least one processor for instructing the at least one processor to execute a computer process for performing the method as recited in claim 1.

9. At least one processor readable carrier for storing a computer program of instructions configured to be readable by at least one processor for instructing the at least one processor to execute a computer process for performing the method as recited in claim 1.

10. A system for prefix limit exchange for route advertisement, the system comprising:

means for communicating a prefix limit from a first element

to a second element, wherein the first element and the second element are routing neighbors in a network;

means for advertising a plurality of routes from the second element to the first element;

means for recording, at the second element, a number of the plurality of routes that the second element has advertised to the first element; and

means for suspending route advertisement from the second element to the first element when the number is the same as or greater than the prefix limit.

11. The system according to claim 10 further comprising means for exchanging a prefix limit capability between the first element and the second element.

12. The system according to claim 10 further comprising:

means for recording, at the second element, at least one route withdrawal to the first element;

means for updating, based on the at least one route withdrawal, the number of the plurality of routes that the second element has advertised to the first element; and

means for resuming the route advertisement from the second element to the first element.

13. The system according to claim 10 further comprising:

means for communicating an increased prefix limit from the first element to the second element without resetting a peering session between the first element and the second element; and

means for resuming the route advertisement from the second element to the first element until the number of the plurality of routes that the second element has advertised to the first element is the same as or greater than the increased prefix limit.

14. The system according to claim 10 further comprising:

means for communicating a decreased prefix limit from the first element to the second element without resetting a peering session between the first element and the second element; and

means for suspending the route advertisement from the second element to the first element when the number of the plurality of routes that the second element has advertised to the first element is the same as or greater than the decreased prefix limit.

15. The system according to claim 10 further comprising means for subjecting the plurality of routes to one or more route

filters negotiated between the first element and the second element.

16. The system according to claim 10, wherein the first element and the second elements are routing neighbors in a network implementing Border Gateway Protocol (BGP).